Online Appendix for "Leader Survival, Sources of Political Insecurity, and International Conflict"

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Contents

A Notes on Disaster Data

Temporal and Spatial Domains

The following countries/territories are included in EM-DAT but are either not included in *Archigos*, not included in the Correlates of War data set, or do not have coding in the Bueno de Mesquita et al. 2003 *W* score data, and are excluded from the analysis: American Samoa, Anguilla, Azores, Bermuda, Canary Islands, Cayman Islands, Cook Islands, Ethiopia, French Guiana, French Polynesia, Guadeloupe, Guam, Macau, Martinique, Montserrat, Netherlands Antilles, New Caledonia, Niue, Northern Mariana Islands, Palestine (West Bank), Puerto Rico, Reunion, Serbia, St Helena, Tokelau, Turks and Caicos Islands, Virgin Islands (UK), Virgin Islands (US), Wallis, Wallis and Futuna Islands. There are three cases that did not appear in the EM-DAT data but do appear in Archigos: Qatar, United Arab Emirates, and Republic of Vietnam. I include Qatar and United Arab Emirates in the analysis because they both appear in the EM-DAT online database even though they have no disasters listed during the temporal domain of this study. Dealing with the Republic of Vietnam (South Vietnam) is less straightforward, because EM-DAT does not distinguish between Vietnam and South Vietnam pre-1975, while Archigos has observations for Vietnam and South Vietnam pre-1975. For this reason, I excluded the Republic of Vietnam from the analysis, as well as all pre-1975 years for Vietnam, since it is not possible to distinguish whether disasters occurred in Vietnam or Republic of Vietnam before 1975.

Coding Disaster Deaths and Events

Though the database always records the year that a disaster started, many observations list the start day as '00' in the data, and some list the start month as '00'. I treat these cases as if the disaster occurred on the first day of the month (or on the first day of the year if both are missing). The data are aggregated by total deaths per disaster. Accordingly, to contribute to the overall count of disaster deaths for a given leader-year, I require only that the disaster *started* during that leader-year. Disaster end dates are far less precise than start dates in EM-DAT. Often only a month and year is listed, while some cases list only the year. For countries with no disasters listed during a year, I code these values as zero so long as the country appears in the data set in other years.

Why Not Use a Measure of Economic Damage?

While economic damage might have an effect similar to deaths, empirical measures of economic damage may not reliably convey the extent of a disaster's economic impact. For example, the International Disaster Database records that Libya experienced $42.2 million in disaster damages in 1995. Yet, Cohen and Werker (2008, 811) note that insurance covered these damages, so the extent of the loss is not clear from the $42.2 million figure. Alternative data sets of economic damage may provide more fine-grained estimates of economic losses (e.g., Neumayer, Plümper and Barthel 2014), but for the purposes of this project, they do not necessarily provide any better estimate of disasters' effects on the confidence of the winning coalition in the leader. Deaths from disasters, which are permanent and more readily visible, should serve as a clearer signal of leader competence. Quiroz Flores and Smith (2013) also use this measure as an indicator of disasters' impacts on human security.

B Summary Statistics

Table 4: Summary Statistics

Statistic	N	Mean	St. Dev.	Min	Max
mids_init	6,843	0.199	0.648	0	23
hh_mids_init	6,843	0.131	0.543	0	23
ln_deaths_t1	6,843	1.342	2.262	0.000	14.510
ln_events_t1	6,843	0.462	0.654	0.000	3.638
eq_events_t1	6,843	0.108	0.470	0	10
lwc_i	6,843	0.360	0.480	0	1
lwc_r	6,843	0.381	0.486	0	1
lwc_i_75	6,843	0.092	0.289	0	1
lwc_r_75	6,843	0.377	0.485	0	1
small	6,843	0.260	0.438	0	1
peace_years_mid	6,843	19.581	45.204	1	191
leader_tenure	6,843	8.644	7.381	2	49
ln_realgdp	6,843	10.333	1.914	4.873	16.373
ln_land	6,843	12.274	1.784	6.554	16.612
cinc	6,843	0.007	0.021	0.00001	0.319

Key
mids_init: Count of MIDs initiated in year t
hh_mids_init: Count of MIDs with hostility ≥ 4 initiated in year t
ln_deaths_t1: Natural log of disaster deaths in year $t-1$
ln_events_t1: Natural log of disaster events in year $t-1$
eq_events_t1: Earthquake events in year $t-1$
lwc_i: Large-coalition, irregular removal system (threshold $W \geq 0.5$)
lwc_r: Large-coalition, regular removal system (threshold $W \geq 0.5$)
lwc_i_75: Large-coalition, irregular removal system (threshold $W \geq 0.75$)
lwc_r_75: Large-coalition, regular removal system (threshold $W \geq 0.75$)
small: Small-coalition system (threshold $W < 0.5$)
peace_years_mid: Number of consecutive years without MID prior to year t
leader_tenure: length of time in years that leader has been in office up to year t
ln_realgdp: Natural log of real GDP in year $t-1$
ln_land: Natural log of land area in square kilometers
cinc: CINC score for country in year $t-1$

C Polity *xrreg* variable

The Polity codebook (Marshall, Jaggers and Gurr 2010, 21) describes the second category of *xrreg* as follows:

> (2) Designational/Transitional: Chief executives are chosen by designation within the political elite, without formal competition (i.e., one-party systems or 'rigged' multi-party elections). Also coded here are transitional arrangements intended to regularize future power transitions after an initial unregulated seizure of power (i.e., after constitutional legitimization of military rule or during periods when the leader of the coup steps down as head of state but retains unrivaled power within the political realm as head of the military). This category also includes polities in transition from designative to elective modes of executive selection (i.e., the period of 'guided democracy' often exhibited during the transition from military to civilian rule) or vice versa (i.e., regimes ensuring electoral victory through the intimidation of oppositional leaders or the promulgation of a 'state of emergency' before executive elections).

In short, a score of '2' indicates that the institutionalization of leader accession is fragile (at best), and leaders of these systems are likely more concerned about irregular removal from office than leaders in regimes that score '3.'

D Including Total Aid and Civil Conflict

Here I report the results for some alternative models that include measures that may cause problems with post-treatment bias. Aid may reduce disaster impacts and countries may be less likely to engage in provocative international behavior when they are dependent on external assistance. I use the log of the sum of aid commitments (in constant US$) from the project-level data provided by *AidData* (Tierney et al. 2011). Since Nelson (2010) argues that the association between disasters and international conflict results from the worsening of violent internal conflict which spills over into international conflict, I include a count of civil conflicts in the previous year using the UCDP-PRIO Armed Conflict Dataset v.4-2014 (Gleditsch et al. 2002). However, since these variables potentially intervene between the key independent and dependent variables, I omit these measures from the main analysis. The results are reported in Table 5.

Table 5: Controlling for Aid and Civil Conflict

	Dependent variable: MID Initiations			
	(1)	(2)	(3)	(4)
Deaths (log)	0.002	0.024	−0.044	−0.011
	(0.030)	(0.022)	(0.027)	(0.019)
Large-Coalition, Regular Removal (LC-R)	−0.409***		−0.771***	
	(0.152)		(0.116)	
Large-Coalition, Irregular Removal (LC-I)	−0.089		−0.155	
	(0.126)		(0.097)	
Large-Coalition, Regular Removal (LC-R, W≥0.75)		−0.558***		−0.811***
		(0.142)		(0.103)
Large-Coalition, Irregular Removal (LC-I, W≥0.75)		−0.688***		−0.856***
		(0.210)		(0.196)
CINC	13.121***	13.441***	8.526***	8.877***
	(2.710)	(2.707)	(1.292)	(1.292)
Land area (km^2, log)	0.096***	0.080**	0.084***	0.076***
	(0.032)	(0.032)	(0.025)	(0.025)
Real GDP (log)	0.213***	0.226***	0.184***	0.191***
	(0.033)	(0.033)	(0.027)	(0.027)
Population	−0.00000***	−0.00000***	−0.00000*	−0.00000*
	(0.00000)	(0.00000)	(0.00000)	(0.00000)
Leader Tenure	−0.019***	−0.024***	−0.014***	−0.019***
	(0.006)	(0.006)	(0.005)	(0.005)
Peace Years	−0.013***	−0.013***	−0.015***	−0.014***
	(0.003)	(0.002)	(0.002)	(0.002)
Aid Commitments (log)	−0.092***	−0.089***		
	(0.019)	(0.019)		
Aid Commitments (log, missing = zero)			0.002	0.003
			(0.005)	(0.005)
Civil Conflict	0.447***	0.443***	0.389***	0.388***
	(0.042)	(0.042)	(0.036)	(0.035)
Disaster Deaths (log) × LC-R	−0.007		0.061*	
	(0.041)		(0.034)	
Disaster Deaths (log) × LC-I	0.060		0.074**	
	(0.039)		(0.034)	
Disaster Deaths (log) × LC-R (W≥0.75)		−0.032		0.020
		(0.033)		(0.027)
Disaster Deaths (log) × LC-I (W≥0.75)		0.108*		0.152***
		(0.057)		(0.053)
$\hat{\beta}_{DisasterDeaths}$ for LC-I Leaders	0.06*	0.13*	0.03	0.14*
	(0.027)	(0.05)	(0.02)	(0.05)
$\hat{\beta}_{DisasterDeaths}$ for LC-R Leaders	-0.005	-0.008	0.017	0.009
	(0.03)	(0.03)	(0.02)	(0.023)
Constant	−3.613***	−3.459***	−4.472***	−4.434***
	(0.803)	(0.802)	(0.464)	(0.461)
Observations	4,419	4,419	6,843	6,843
Log Likelihood	−2,007.165	−1,999.524	−3,228.590	−3,216.975
θ	0.958*** (0.128)	0.966*** (0.129)	0.842*** (0.087)	0.851*** (0.088)
Akaike Inf. Crit.	4,134.331	4,119.047	6,595.181	6,571.950

Note: *p<0.1; **p<0.05; ***p<0.01

E Zero-inflated Negative Binomial Regression Models

A potential concern is that conflict is sufficiently rare to make estimating the relationship between disasters and conflict difficult because of excessive zeros for the conflict variable(s). I address this using zero-inflated negative binomial regression models. The problem with using this model is that it assumes that there are multiple processes that generates zeros for the outcome variable. In the context of this paper, this means that I would have to assume that some leaders are restricted to be at peace for some reason. It is not clear that there are conditions that prevent some leaders from initiating conflicts or making threats, and, as such, it is unclear whether this model is appropriate. However, it is possible that having a weak military would cause a leader to be unable to initiate conflicts. I reestimate the main models using the CINC score as the inflation factor. The zero-inflated negative binomial regression models produces results similar to those reported in Table 1. Though the results are only statistically significant at the 80% confidence level in Model 1, they are in the same direction of those reported in the main text. However, in Model 2, which uses the $W \geq 0.75$ threshold to separate large- from small-coalition leaders, the results are statistically significant for leaders facing irregular removal but not regular removal.

Table 6: Zero-inflated Negative Binomial Regression Models

	Dependent variable: MIDs Initiated	
		$W \geq 0.75$
	(1)	(2)
Deaths (log)	-0.068^{**}	-0.020
	(0.028)	(0.018)
Large-Coalition, Regular Removal (LC-R)	-0.724^{***}	
	(0.115)	
Large-Coalition, Irregular Removal (LC-I)	-0.314^{***}	
	(0.100)	
Large-Coalition, Regular Removal (LC-R, W$\geq$0.75)		-0.653^{***}
		(0.105)
Large-Coalition, Irregular Removal (LC-I, W$\geq$0.75)		-0.773^{***}
		(0.202)
CINC	9.826^{***}	10.195^{***}
	(1.353)	(1.357)
Land area (km^2, log)	0.054^{**}	0.056^{**}
	(0.027)	(0.027)
Real GDP (log)	-0.128^{***}	-0.109^{***}
	(0.039)	(0.040)
Population (log)	0.187^{***}	0.156^{***}
	(0.046)	(0.046)
Leader Tenure	-0.021^{***}	-0.025^{***}
	(0.005)	(0.005)
Peace Years	-0.013^{***}	-0.013^{***}
	(0.002)	(0.002)
Disaster Deaths (log) $\times$ LC-R	0.098^{***}	
	(0.033)	
Disaster Deaths (log) $\times$ LC-I	0.097^{***}	
	(0.034)	
Disaster Deaths (log) $\times$ LC-R (W$\geq$0.75)		0.051^{**}
		(0.026)
Disaster Deaths (log) $\times$ LC-I (W$\geq$0.75)		0.176^{***}
		(0.053)
$\hat{\beta}_{DisasterDeaths}$ for LC-I Leaders	0.03	0.16^{*}
	(0.02)	(0.05)
$\hat{\beta}_{DisasterDeaths}$ for LC-R Leaders	0.03	0.03
	(0.02)	(0.02)
Constant	-2.394^{***}	-2.436^{***}
	(0.558)	(0.557)
Observations	6,843	6,843
Log Likelihood	$-3,205.441$	$-3,201.884$

Note: *p<0.1; **p<0.05; ***p<0.01
Zero inflation factor in inflation stage (not shown) is the CINC variable.

F Controlling for Disaster Propensity

To account for the possibility that some countries are more prone to experience disasters in ways that would affect the relationship between disasters and leader survival, I control for the disaster propensity of a country. To construct this measure, I take the natural log of disaster events in a given country for all years before and including year $t-2$. The results are reported in Table 7. Though the results weaken in Model 1, they are similar to the findings in the baseline model in the main text (and in the same direction). Still, it is not clear that past disaster propensity would affect a country's propensity for initiating international conflicts, especially since disaster responses may have failed under past administrations or institutional settings.

Table 7: Controlling for Disaster Propensity (Negative Binomial Regression)

	Dependent variable:	
	mids_init	
	(1)	(2)
Deaths (log)	−0.038	−0.009
	(0.028)	(0.019)
Large-Coalition, Regular Removal (LC-R)	−0.863***	
	(0.115)	
Large-Coalition, Irregular Removal (LC-I)	−0.271***	
	(0.096)	
Large-Coalition, Regular Removal (LC-R, W≥0.75)		−0.842***
		(0.103)
Large-Coalition, Irregular Removal (LC-I, W≥0.75)		−0.897***
		(0.196)
CINC	5.154***	5.402***
	(1.304)	(1.305)
Land area (km^2, log)	0.094***	0.088***
	(0.024)	(0.025)
Real GDP (log)	0.167***	0.168***
	(0.026)	(0.026)
Population	0.00000	0.00000
	(0.00000)	(0.00000)
Leader Tenure	−0.014***	−0.020***
	(0.005)	(0.005)
Peace Years	−0.016***	−0.016***
	(0.002)	(0.002)
Disaster Events Up to Year $t-2$ (log)	0.078**	0.085**
	(0.039)	(0.040)
Disaster Deaths (log) × LC-R	0.076**	
	(0.034)	
Disaster Deaths (log) × LC-I	0.069**	
	(0.034)	
Disaster Deaths (log) × LC-R (W≥0.75)		0.042
		(0.027)
Disaster Deaths (log) × LC-I (W≥0.75)		0.159***
		(0.053)
$\hat{\beta}_{DisasterDeaths}$ for LC-I Leaders	0.031	0.15*
	(0.023)	(0.05)
$\hat{\beta}_{DisasterDeaths}$ for LC-R Leaders	0.037	0.032
	(0.023)	(0.023)
Constant	−4.257***	−4.247***
	(0.481)	(0.479)
Observations	6,843	6,843
Log Likelihood	−3,268.984	−3,258.342
θ	0.818*** (0.088)	0.828*** (0.089)
Akaike Inf. Crit.	6,673.968	6,652.685
Note:		*p<0.1; **p<0.05; ***p<0.01

G Correlations Between Key Variables

Table 8 reports correlations between the key independent variables used in the analysis.

Table 8: Correlations Between Independent Variables

	ln_deaths_t1	lwc_r	lwc_i	lwc_r_75	lwc_i_75	small	cinc	ln_land	ln_realgdp	pop	leader_tenure	peace_yrs_mid	ln_aid_commitments	civil_conflict_t1
ln_deaths_t1	1	0.079	-0.061	0.076	0.029	-0.043	0.272	0.307	0.337	0.378	-0.009	-0.176	0.327	0.228
lwc_r	0.079	1	-0.595	0.992	-0.264	-0.482	0.106	-0.040	0.369	0.052	-0.305	-0.021	0.061	0.030
lwc_i	-0.061	-0.595	1	-0.590	0.448	-0.417	-0.044	0.057	-0.174	0.017	0.160	-0.002	0.055	-0.086
lwc_r_75	0.076	0.992	-0.590	1	-0.261	-0.476	0.105	-0.039	0.367	0.052	-0.301	-0.021	0.060	0.032
lwc_i_75	0.029	-0.264	0.448	-0.261	1	-0.184	-0.058	-0.044	-0.071	-0.043	-0.061	0.028	0.032	-0.022
small	-0.043	-0.482	-0.417	-0.476	-0.184	1	-0.130	-0.009	-0.253	-0.093	0.182	0.031	-0.130	0.066
cinc	0.272	0.106	-0.044	0.105	-0.058	-0.130	1	0.371	0.512	0.637	-0.066	-0.114	0.111	0.058
ln_land	0.307	-0.040	0.057	-0.039	-0.044	-0.009	0.371	1	0.473	0.338	-0.045	-0.349	0.348	0.167
ln_realgdp	0.337	0.369	-0.174	0.367	-0.071	-0.253	0.512	0.473	1	0.417	-0.101	-0.320	0.264	0.121
pop	0.378	0.052	0.017	0.052	-0.043	-0.093	0.637	0.338	0.417	1	-0.033	-0.101	0.243	0.298
leader_tenure	-0.009	-0.305	0.160	-0.301	-0.061	0.182	-0.066	-0.045	-0.101	-0.033	1	-0.022	-0.069	-0.010
peace_yrs_mid	-0.176	-0.021	-0.002	-0.021	0.028	0.031	-0.114	-0.349	-0.320	-0.101	-0.022	1	-0.231	-0.116
ln_aid_commitments	0.327	0.061	0.055	0.060	0.032	-0.130	0.111	0.348	0.264	0.243	-0.069	-0.231	1	0.183
civil_conflict_t1	0.228	0.030	-0.086	0.032	-0.022	0.066	0.058	0.167	0.121	0.298	-0.010	-0.116	0.183	1

Key

ln_deaths_t1: Natural log of disaster deaths in year $t-1$
ln_events_t1: Natural log of disaster events in year $t-1$
eq_events_t1: Earthquake events in year $t-1$
lwc_i: Large-coalition, irregular removal system (threshold $W \geq 0.5$)
lwc_r: Large-coalition, regular removal system (threshold $W \geq 0.5$)
lwc_i_75: Large-coalition, irregular removal system (threshold $W \geq 0.75$)
lwc_r_75: Large-coalition, regular removal system (threshold $W \geq 0.75$)
small: Small-coalition system (threshold $W < 0.5$)
peace_yrs_mid: Number of consecutive years without MID prior to year t
leader_tenure: length of time in years that leader has been in office up to year t
ln_realgdp: Natural log of real GDP in year $t-1$
ln_land: Natural log of land area in square kilometers
cinc: CINC score for country in year $t-1$
pop: Population (in thousands)
ln_aid_commitments: Logged total aid commitments from AidData
civil_conflict_t1: Number of civil conflicts in previous year

H Empirical Distribution of Regime and Removal Type

Table 9 reports the empirical distribution of removal type for my coding of regime type using the main $W \geq 0.5$ threshold. To create this table, I reduced the data set to only the last years that leaders were in office, recording the removal type as I have coded it, along with how the leader actually lost office as coded by Goemans, Gleditsch and Chiozza (2009). Though large-coalition leaders face irregular removal less often than small-coalition leaders, my coding of regular versus irregular removal within large-coalition systems still captures this distinction within large-coalition regimes. Only 9% of large-coalition, regular removal leaders lost office through irregular means, while 27% of large-coalition, irregular removal leaders lost office through irregular means. So, while in both groups irregular removal happens less often than it does in small-coalition systems, clearly there is a non-trivial risk of irregular removal for the leaders I have coded as 'large-coalition, irregular removal.' The table also shows that the coding scheme also seems to capture a meaningful distinction in removal types within small-coalition regimes. The same is true in Table 10 which uses the alternative threshold of $W \geq 0.75$ to separate large- from small-coalition systems, though the differences are less pronounced.

Table 9: Empirical Distribution of Regime and Removal Type, W$\geq$ 0.5 Threshold

	Foreign	Irregular	Natural Death	Regular	Retired Due to Ill Health	Still in Office	Suicide	Unknown
Large, Irregular	0.020	0.270	0.100	0.600	0.010	0	0	0
Large, Regular	0	0.090	0.030	0.850	0.020	0	0	0
Small, Irregular	0.020	0.510	0.050	0.400	0.020	0	0	0
Small, Regular	0.020	0.260	0.280	0.400	0.040	0	0	0

Table 10: Empirical Distribution of Regime and Removal Type, W$\geq$ 0.75 Threshold

	Foreign	Irregular	Natural Death	Regular	Retired Due to Ill Health	Still in Office	Suicide	Unknown
Large, Irregular	0.010	0.140	0.020	0.820	0.010	0	0	0
Large, Regular	0	0.090	0.030	0.850	0.020	0	0	0
Small, Irregular	0.030	0.420	0.100	0.430	0.020	0	0	0
Small, Regular	0.030	0.260	0.260	0.420	0.030	0	0	0

I Alternative Dependent Variable: ICB Crisis Initiations

To provide an alternative measure of conflict behavior, Table 11 reports the results of using a count of ICB crisis initiations (Brecher and Wilkenfeld 1997) rather than MID initiations. The results in the baseline model are no longer statistically significant, though the direction of the estimates are the same as in the main text. However, in the model that uses the alternative W threshold (Model 2), there is a statistically significant effect of disasters, only in large-coalition, irregular removal systems. In both models, the coefficient for disasters in large-coalition regular removal systems is close to zero and not statistically significant.

Table 11: Alternative Dependent Variable: ICB Crisis Initiations (Negative Binomial Regression)

	Dependent variable: ICB Crisis Initiations	
		$W \geq 0.75$
	(1)	(2)
Disaster Deaths (log)	−0.026	−0.004
	(0.048)	(0.034)
Large-Coalition, Regular Removal (LC-R)	−0.246	
	(0.194)	
Large-Coalition, Irregular Removal (LC-I)	−0.484***	
	(0.175)	
Large-Coalition, Regular Removal (LC-R, W≥0.75)		−0.110
		(0.175)
Large-Coalition, Irregular Removal (LC-I, W≥0.75)		−1.708***
		(0.606)
CINC	7.669***	8.007***
	(1.756)	(1.786)
Land area (km^2, log)	0.173***	0.171***
	(0.044)	(0.044)
Real GDP (log)	−0.003	−0.005
	(0.045)	(0.045)
Population	0.00000	0.00000
	(0.00000)	(0.00000)
Leader Tenure	−0.013	−0.020**
	(0.010)	(0.010)
Peace Years	−0.017***	−0.017***
	(0.004)	(0.004)
Disaster Deaths (log) × LC-R	0.054	
	(0.060)	
Disaster Deaths (log) × LC-I	0.037	
	(0.064)	
Disaster Deaths (log) × LC-R (W≥0.75)		0.029
		(0.046)
Disaster Deaths (log) × LC-I (W≥0.75)		0.270*
		(0.140)
$\hat{\beta}_{DisasterDeaths}$ for LC-I Leaders	0.011	0.26*
	(0.044)	(0.14)
$\hat{\beta}_{DisasterDeaths}$ for LC-R Leaders	0.028	0.025
	(0.037)	(0.037)
Constant	−38.274	−38.113
	(6,728,023.000)	(4,791,973.000)
Observations	6,843	6,843
Log Likelihood	−1,146.755	−1,144.605
θ	2.135 (1.318)	2.058* (1.238)
Akaike Inf. Crit.	2,427.510	2,423.211
Note:		*p<0.1; **p<0.05; ***p<0.01

J Cross Tabulation of Disaster Deaths and MID Initiations

Table 12 reports the raw counts and percentage of observations where leaders in each of the large-coalition categories initiated at least one MID following a year with less than the mean number of disaster deaths and more than the mean number of disaster deaths.

Table 12: Distribution of MID Cases for Large-Coalition Leaders

Regime, Removal Type	Zero MIDs	MIDs > 0	% MID Cases
Large-Coalition, Irregular (Deaths $\leq$Mean)	1609	223	0.069
Large-Coalition, Irregular (Deaths $>$Mean)	504	132	0.21
Large-Coalition, Regular (Deaths $\leq$Mean)	1494	154	0.052
Large-Coalition, Regular (Deaths $>$Mean)	769	200	0.21

Table 13 lists the cases in the data where large-coalition leaders initiated at least one MID following a year where disasters killed an above-average number of people in the leader's country. Table 14 does the same for large-coalition regular removal leaders.

Table 13: Cases of MID Initiations for Large-Coalition, Irregular Removal Leaders with Greater than Mean Disaster Deaths in Previous Period

	leader	ccode	idacr	year
1	Berisha	339	ALB	1997
2	Duvalier, Francois	41	HAI	1963
3	Ruiz Cortines	70	MEX	1956
4	Laugerud Garcia	90	GUA	1977
5	Azcona Hoyo	91	HON	1989
6	Callejas	91	HON	1991
7	Reina	91	HON	1995
8	Anastasio Somoza Debayle	93	NIC	1977
9	Alarcon Fabian	130	ECU	1998
10	Fujimori	135	PER	1995
11	Geisel	140	BRA	1975
12	Figueiredo	140	BRA	1983
13	Kadar	310	HUN	1971
14	Husak	315	CZE	1986
15	Georgievski	343	MAC	2002
16	Milosevic	345	YUG	1991
17	Milosevic	345	YUG	2000
18	Zhivkov	355	BUL	1987
19	Yeltsin	365	RUS	1993
20	Yeltsin	365	RUS	1994
21	Yeltsin	365	RUS	1995
22	Yeltsin	365	RUS	1996
23	Yeltsin	365	RUS	1997
24	Yeltsin	365	RUS	1998
25	Yeltsin	365	RUS	1999
26	Putin	365	RUS	2001
27	Putin	365	RUS	2002
28	Putin	365	RUS	2003
29	Putin	365	RUS	2005
30	Putin	365	RUS	2006
31	Putin	365	RUS	2007
32	H. Aliyev	373	AZE	1996
33	H. Aliyev	373	AZE	2001
34	Taylor	450	LBR	2000
35	Biya	471	CAO	1987
36	Biya	471	CAO	1994
37	Biya	471	CAO	1995
38	Biya	471	CAO	1998
39	Biya	471	CAO	2005
40	Patasse	482	CEN	2001
41	Mobutu	490	DRC	1977
42	Mobutu	490	DRC	1978
43	Joseph Kabila	490	DRC	2007
44	Kenyatta	501	KEN	1978
45	Moi	501	KEN	1995
46	Mwinyi	510	TAZ	1995
47	Mkapa	510	TAZ	2000
48	Mkapa	510	TAZ	2002
49	Gouled Aptidon	522	DJI	1998
50	Dos Santos	540	ANG	1988
51	Dos Santos	540	ANG	2001
52	Dos Santos	540	ANG	2002
53	Dos Santos	540	ANG	2005
54	Machel	541	MZM	1986
55	Kaunda	551	ZAM	1983
56	Levy Mwanawasa	551	ZAM	2004
57	Ayatollah Khomeini	630	IRN	1984
58	Ayatollah Khomeini	630	IRN	1987
59	Ayatollah Khomeini	630	IRN	1988
60	Rafsanjani	630	IRN	1991
61	Rafsanjani	630	IRN	1992
62	Rafsanjani	630	IRN	1993
63	Rafsanjani	630	IRN	1994
64	Rafsanjani	630	IRN	1995
65	Rafsanjani	630	IRN	1996
66	Rafsanjani	630	IRN	1997
67	Khatami	630	IRN	2005
68	Menderes	640	TUR	1952
69	Menderes	640	TUR	1958
70	Evren	640	TUR	1982
71	Ozal	640	TUR	1986
72	Ozal	640	TUR	1987
73	Ozal	640	TUR	1988
74	Ozal	640	TUR	1989
75	Sadat	651	EGY	1980
76	Mubarak	651	EGY	1993
77	Mubarak	651	EGY	1995
78	Mubarak	651	EGY	1996
79	Bashar al-Assad	652	SYR	2005
80	Rakhmonov	702	TAJ	1998
81	Rakhmonov	702	TAJ	2006
82	Akayev	703	KYR	1993
83	Karimov	704	UZB	1993
84	Karimov	704	UZB	1999
85	Nazarbayev	705	KZK	1996
86	Mao Tse-Tung	710	CHN	1952
87	Mao Tse-Tung	710	CHN	1955
88	Mao Tse-Tung	710	CHN	1956
89	Mao Tse-Tung	710	CHN	1958
90	Mao Tse-Tung	710	CHN	1960
91	Mao Tse-Tung	710	CHN	1965
92	Mao Tse-Tung	710	CHN	1975
93	Mao Tse-Tung	710	CHN	1976
94	Deng Xiaoping	710	CHN	1985
95	Deng Xiaoping	710	CHN	1986
96	Deng Xiaoping	710	CHN	1987
97	Deng Xiaoping	710	CHN	1988
98	Deng Xiaoping	710	CHN	1993
99	Deng Xiaoping	710	CHN	1994
100	Deng Xiaoping	710	CHN	1995
101	Deng Xiaoping	710	CHN	1996
102	Jiang Zemin	710	CHN	1999
103	Jiang Zemin	710	CHN	2001
104	Jiang Zemin	710	CHN	2002
105	Hu Jintao	710	CHN	2004
106	Hu Jintao	710	CHN	2005
107	Hu Jintao	710	CHN	2007
108	Chiang Ching-Kuo	713	TAW	1987
109	Lee Teng-Hui	713	TAW	1991
110	Lee Teng-Hui	713	TAW	1995
111	Rhee	732	ROK	1958
112	Chun Doo Hwan	732	ROK	1983
113	Chun Doo Hwan	732	ROK	1985
114	Chun Doo Hwan	732	ROK	1986
115	Roh Tae Woo	732	ROK	1991
116	Kim Young Sam	732	ROK	1996
117	Prem	800	THI	1987
118	Mahatir Bin Mohammad	820	MAL	1988
119	Mahatir Bin Mohammad	820	MAL	1992
120	Mahatir Bin Mohammad	820	MAL	2003
121	Ahmad Badawi	820	MAL	2004
122	Ahmad Badawi	820	MAL	2005
123	Ahmad Badawi	820	MAL	2006
124	Marcos	840	PHI	1979
125	Marcos	840	PHI	1982
126	Sukarno	850	INS	1957
127	Sukarno	850	INS	1964
128	Megawati Sukarnoputri	850	INS	2003
129	Megawati Sukarnoputri	850	INS	2004
130	Ahmadinejad	630	IRN	2007
131	Bakiyev	703	KYR	2005
132	Bakiyev	703	KYR	2006

Table 14: Cases of MID Initiations for Large-Coalition, Regular Removal Leaders with Greater than Mean Disaster Deaths in Previous Period

	leader	ccode	idacr	year
1	Berisha	339	ALB	1993
2	Khaleda Zia	771	BNG	1995
3	Khaleda Zia	771	BNG	2002
4	Eisenhower	2	USA	1954
5	Eisenhower	2	USA	1956
6	Eisenhower	2	USA	1957
7	Eisenhower	2	USA	1958
8	Eisenhower	2	USA	1959
9	Eisenhower	2	USA	1960
10	Kennedy	2	USA	1962
11	Johnson	2	USA	1965
12	Johnson	2	USA	1967
13	Johnson	2	USA	1968
14	Nixon	2	USA	1970
15	Nixon	2	USA	1971
16	Nixon	2	USA	1972
17	Nixon	2	USA	1973
18	Ford	2	USA	1976
19	Carter	2	USA	1979
20	Carter	2	USA	1980
21	Reagan	2	USA	1982
22	Reagan	2	USA	1983
23	Reagan	2	USA	1984
24	Reagan	2	USA	1985
25	Reagan	2	USA	1986
26	Reagan	2	USA	1987
27	Reagan	2	USA	1988
28	Bush	2	USA	1990
29	Bush	2	USA	1991
30	Bush	2	USA	1992
31	Clinton	2	USA	1994
32	Clinton	2	USA	1996
33	Clinton	2	USA	1997
34	Clinton	2	USA	1998
35	Clinton	2	USA	1999
36	Clinton	2	USA	2000
37	G.W. Bush	2	USA	2002
38	G.W. Bush	2	USA	2003
39	G.W. Bush	2	USA	2004
40	G.W. Bush	2	USA	2005
41	G.W. Bush	2	USA	2006
42	G.W. Bush	2	USA	2007
43	Mulroney	20	CAN	1988
44	Mulroney	20	CAN	1992
45	Chretien	20	CAN	1997
46	Chretien	20	CAN	2000
47	Blanco	42	DOM	1986
48	Hipolito Mejia	42	DOM	2004
49	Flores Facusse	91	HON	2000
50	Duarte	92	SAL	1989
51	Calderon Sol	92	SAL	1997
52	Violeta Chamorro	93	NIC	1994
53	Violeta Chamorro	93	NIC	1997
54	Aleman	93	NIC	1999
55	Turbay	100	COL	1980
56	Vargas	100	COL	1987
57	Vargas	100	COL	1988
58	Arango	100	COL	2001
59	Alvaro Uribe Velez	100	COL	2006
60	Alvaro Uribe Velez	100	COL	2007
61	Leoni	101	VEN	1968
62	Caldera Rodriguez	101	VEN	1995
63	Campins	101	VEN	1982
64	Lusinchi	101	VEN	1986
65	Hugo Chavez	101	VEN	2000
66	Hugo Chavez	101	VEN	2003
67	Hugo Chavez	101	VEN	2006
68	Velasco Ibarra	130	ECU	1954
69	Velasco Ibarra	130	ECU	1971
70	Belaunde	135	PER	1981
71	Belaunde	135	PER	1984
72	Fujimori	135	PER	1991
73	Fujimori	135	PER	1992
74	Frei Montalva	155	CHL	1967
75	Peron, Isabel	160	ARG	1976
76	Alfonsin	160	ARG	1986
77	Alfonsin	160	ARG	1987
78	Menem	160	ARG	1993
79	Wilson	200	UKG	1967
80	Wilson	200	UKG	1969
81	Thatcher	200	UKG	1982
82	Major	200	UKG	1992
83	Major	200	UKG	1996
84	Blair	200	UKG	1999
85	Blair	200	UKG	2000
86	Blair	200	UKG	2001
87	Blair	200	UKG	2002
88	Fitzgerald	205	IRE	1984
89	Kok	210	NTH	2000
90	Martens	211	BEL	1991
91	De Gaulle	220	FRN	1959
92	Giscard D'Estaing	220	FRN	1978
93	Giscard D'Estaing	220	FRN	1980
94	Mitterand	220	FRN	1984
95	Mitterand	220	FRN	1985
96	Mitterand	220	FRN	1988
97	Mitterand	220	FRN	1989
98	Mitterand	220	FRN	1990
99	Mitterand	220	FRN	1991
100	Mitterand	220	FRN	1992
101	Mitterand	220	FRN	1993
102	Chirac	220	FRN	2000
103	Chirac	220	FRN	2001
104	Chirac	220	FRN	2005
105	Gonzalez Marquez	230	SPN	1986
106	Aznar	230	SPN	2000
107	Aznar	230	SPN	2002
108	Aznar	230	SPN	2003
109	Kwasniewski	290	POL	2000
110	Orban	310	HUN	2000
111	de Gasperi	325	ITA	1952
112	Cossiga	325	ITA	1980
113	Mitsotakis	350	GRC	1992
114	Simitis	350	GRC	2000
115	Simitis	350	GRC	2001
116	Nyrup Rasmussen	390	DEN	2000
117	Mwai Kibaki	501	KEN	2004
118	Mwai Kibaki	501	KEN	2005
119	Mwai Kibaki	501	KEN	2006
120	Osman Daar	520	SOM	1965
121	Smith	552	ZIM	1976
122	Vorster	560	SAF	1975
123	Vorster	560	SAF	1978
124	Botha	560	SAF	1982
125	Botha	560	SAF	1984
126	Botha	560	SAF	1985
127	Botha	560	SAF	1988
128	Khatami	630	IRN	1999
129	Khatami	630	IRN	2001
130	Khatami	630	IRN	2002
131	Khatami	630	IRN	2003
132	Khatami	630	IRN	2004
133	Inonu	640	TUR	1963
134	Demirel	640	TUR	1967
135	Demirel	640	TUR	1976
136	Demirel	640	TUR	1993
137	Ecevit	640	TUR	2000
138	Ecevit	640	TUR	2001
139	Ecevit	640	TUR	2002
140	Ciller	640	TUR	1995
141	Erdogan	640	TUR	2004
142	Erdogan	640	TUR	2005
143	Erdogan	640	TUR	2007
144	Chen Shui-bian	713	TAW	2002
145	Chen Shui-bian	713	TAW	2003
146	Chen Shui-bian	713	TAW	2005
147	Kim Jong-Il	731	PRK	1997
148	Kim Jong-Il	731	PRK	1999
149	Kim Jong-Il	731	PRK	2000
150	Kim Jong-Il	731	PRK	2001
151	Kim Jong-Il	731	PRK	2005
152	Kim Jong-Il	731	PRK	2007
153	Hee Park	732	ROK	1964
154	Hee Park	732	ROK	1966
155	Roh Moo Hyun	732	ROK	2006
156	Obuchi	740	JPN	1999
157	Junichiro Koizumi	740	JPN	2002
158	Junichiro Koizumi	740	JPN	2003
159	Junichiro Koizumi	740	JPN	2005
160	Nehru	750	IND	1954
161	Nehru	750	IND	1955
162	Nehru	750	IND	1957
163	Nehru	750	IND	1958
164	Nehru	750	IND	1959
165	Nehru	750	IND	1961
166	Nehru	750	IND	1962
167	Nehru	750	IND	1964
168	Shastri	750	IND	1965
169	Gandhi, I.	750	IND	1967
170	Gandhi, I.	750	IND	1968
171	Gandhi, I.	750	IND	1969
172	Gandhi, I.	750	IND	1970
173	Gandhi, I.	750	IND	1971
174	Gandhi, I.	750	IND	1973
175	Gandhi, I.	750	IND	1981
176	Gandhi, I.	750	IND	1982
177	Gandhi, I.	750	IND	1983
178	Desai	750	IND	1979
179	Gandhi, R.	750	IND	1985
180	Gandhi, R.	750	IND	1986
181	Gandhi, R.	750	IND	1987
182	Gandhi, R.	750	IND	1989
183	Shekhar	750	IND	1991
184	Rao	750	IND	1992
185	Vajpayee	750	IND	1999
186	Vajpayee	750	IND	2001
187	Vajpayee	750	IND	2002
188	Vajpayee	750	IND	2004
189	Manmohan Singh	750	IND	2005
190	Manmohan Singh	750	IND	2007
191	Premadasa	780	SRI	1992
192	Leekpai	800	THI	1994
193	Leekpai	800	THI	1995
194	Thaksin Shinawatra	800	THI	2006
195	Rahman	820	MAL	1968
196	Marcos	840	PHI	1968
197	Ramos	840	PHI	1996
198	Gloria Macapagal-Arroyo	840	PHI	2002
199	Bambang Yudhoyono	850	INS	2005
200	Howard	900	AUL	1999

K Alternate measure of probability of irregular removal

In the main text I use the Polity *xrreg* variable to proxy for irregular removal. Here I present an alternate model that instead uses a dummy variable that indicates whether at least 25% of the leader transitions that occurred in the past 20 years in a given country occurred through irregular means as an alternative indicator of "irregular" removal. The results do weaken here, and it is actually large-coalition, regular removal leaders that are significantly more likely to initiate conflicts in the wake of disasters, not those facing irregular removal. However, the direction of the coefficient estimates is consistent with the results reported in the main text. Counting the number of irregular removals in the past one or two decades involves taking into account information about patterns in removal that may have occurred under different institutional systems (or that occurred during transitions to new institutional systems). The *xrreg* variable records institutions of leader transition for a given "polity" in a given year in a way that should avoid giving undue weight to patterns of leader removal that may have prevailed under past institutional systems. Given these concerns, using the Polity *xrreg* variable seems more defensible from a research design standpoint.

Table 15: Marginal Effect of Disasters on Conflict Initiation by Coalition Size, 1950 - 2008 (Alternate estimate of irregular removal)

	Dependent variable:
	MIDs initiated
Small-Coalition	−0.022
	(0.027)
Large-Coalition, Irregular Removal	0.04
	(0.08)
Large-Coalition, Regular Removal	0.04*
	(0.02)
Observations	6,843
Log Likelihood	−3,291.217
θ	0.750*** (0.077)
Akaike Inf. Crit.	6,716.435

Note: *p<0.05. † p <0.10
Estimated standard errors in parentheses.
Negative binomial regression model.
Model also includes CINC score, land area (sq. km, log),
real GDP log, population (thousands),
time in office, peace years, and year dummies.